



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/668,158	09/24/2003	Seiji Horie	019519-407	2772
21839	7590	03/24/2006		EXAMINER
BUCHANAN INGERSOLL PC (INCLUDING BURNS, DOANE, SWECKER & MATHIS) POST OFFICE BOX 1404 ALEXANDRIA, VA 22313-1404				SHOSHO, CALLIE E
			ART UNIT	PAPER NUMBER
			1714	

DATE MAILED: 03/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/668,158	HORIE ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Callie E. Shosho	1714	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 03 January 2006.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-5 and 7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-5 and 7 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: \_\_\_\_\_

**DETAILED ACTION**

1. All outstanding rejections are overcome by applicants' amendment filed 1/3/06.  
The new grounds of rejection set forth below are necessitated by applicants' amendment and thus, the following action is final.

**Claim Rejections - 35 USC § 112**

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.
3. Claims 1-5 and 7 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 1 has been amended to recite that the ink comprises fine particles "obtained by melting and kneading a coloring agent and a binder to provide a colored mixture and subjecting the colored mixture to wet dispersion". It is the examiner's position that this phrase fails to satisfy the written description requirement under the cited statute since there does not appear to be a written description requirement of the phrase "melting and kneading a coloring agent and a binder to provide a colored mixture" in the application as originally filed, *In re Wright*, 866 F.2d 422, 9 USPQ2d 1649 (Fed. Cir. 1989) and MPEP 2163.

As support for the above phrase, applicants point to page 46, line 19- page 48, line 1 and example 2 of the present specification. However, while this portion of the specification provides support to recite that the colored mixture is obtained by melting and kneading a coloring agent and a binder resin, followed by cooling, and then pulverizing, this portion of the present specification does not provide support to recite that the colored mixture is obtained by melting and kneading alone as presently claimed. That is, from page 47, lines 2-7 of the specification, it appears that in order to provide a colored mixture, cooling and pulverizing must occur after the melting and kneading. However, such cooling and pulverizing is not recited in present claim 1.

**Claim Rejections - 35 USC § 102**

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claims 1-3 and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Suzuki et al. (U.S. 5,254,425).

Suzuki et al. disclose method of forming an image from oil-based ink using ink-jet system wherein the ink comprises non-aqueous dispersion, dispersant, and colorant, i.e. fine particles, comprising pigment or dye and binder that is graft polymer obtained from monomer containing aliphatic hydrocarbon group such as cyclohexyl acrylate and macromer that is soluble in the non-aqueous dispersion. Suzuki et al. disclose producing the colorant comprising the graft polymer and the pigment or dye by melt-kneading the graft copolymer with the pigment or dye. Suzuki et

Art Unit: 1714

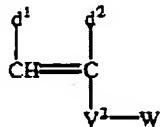
al. also disclose that the colorant is wet dispersed in non-aqueous dispersion using ball mill, paint shaker, dinomill or sand grinder to produce fine grains (col.1, lines 8-15, col.4, lines 1-7, col.5, lines 30-48, col.6, lines 28-31, col.7, lines 17-47, col.8, lines 10-14 and 27, col.9, lines 17-20 and 55-60, col.15, lines 55-61, col.16, lines 1-3, and col.17, lines 36-37 and 63-68).

It is noted that col.1, line 11 of Suzuki et al. disclose that the colorant, i.e. binder and pigment or dye, is suitable for use in ink jet system while col.1, lines 24-26 discloses a printed product obtained from the ink. Thus, although there is no explicit disclosure of method of forming an image by an ink jet recording system comprising discharging the ink from the ink jet recording device, it is clear given that Suzuki et al. disclose method that includes ink jet system used to form image that such method would inherently and necessarily comprise ejecting ink from ink jet recording device as presently claimed.

In light of the above, it is clear that Suzuki et al. anticipate the present claims.

6. Claims 1-2, 4, and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Kato (U.S. 6,302,537).

Kato discloses method of forming an image by ink jet recording using an oil-based ink comprising discharging the ink from the ink jet printing device wherein the ink comprises non-aqueous dispersion medium and fine particles comprising colorant and block polymer, i.e. binder, comprising soluble component block obtained from monomer of formula (II) and insoluble component block obtained from monomer of the formula:



which is identical to that presently claimed when  $V^2$  is  $-COO-$ ,  $-OCO-$ , etc.,  $W$  is cyclopentyl, and  $d^1$  and  $d^2$  are each hydrogen, halogen, cyano group, etc. It is disclosed that the colorant is incorporated into the block polymer (col.1, lines 5-9 and 13-23, col.3, lines 14-26, col.3, line 30-col.4, line 15, col.6, lines 33-40, col.8, lines 1-8 and 31, col.12, lines 43-48 and 58-59, col.12, line 66-col.13, line 7, col.27, lines 21-27, col.29, lines 11-14, 39-40, and 49-52, col.45, lines 14-20, and col.47, lines 39-45). It is noted that Kato discloses that the resin is in the form of fine particles having mean particle size of 0.1- 1  $\mu m$  (col.26, lines 55-56). Further, from the examples, it is clear that even upon forming the fine particles comprising the resin and the colorant, the average particle size remains within the same range as that disclosed for the resin alone (col.49, lines 58-64 and col.66, lines 56-64).

There is no disclosure in Kato that the fine particles are obtained by melting and kneading a coloring agent and binder resin to provide a colored mixture and subjecting the colored mixture to wet dispersion as presently claimed. However, "even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself". See MPEP 2113.

It is noted that "[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process

claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process”, *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985) . Further, “although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product” *In re Marosi*, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir.1983).

Therefore, absent evidence of criticality regarding the presently claimed process for forming the fine particles and given that the Kato discloses product as presently claimed, i.e. fine particles wherein the coloring agent is coated with block polymer as presently claimed, it is clear that Kato meets the requirements of the present claims.

In light of the above, it is clear that Kato anticipates the present claims.

7. Claims 1, 4, and 6 are rejected under 35 U.S.C. 102(e) as being anticipated by Qian et al. (U.S. 2002/0128349).

Qian et al. disclose method of forming an image by ink jet recording using an oil-based ink in an ink jet printer which would inherently discharge ink onto substrate wherein the ink comprises non-aqueous dispersion medium and fine particles comprising pigment or dye and graft copolymer binder obtained from monomer including trimethylcyclohexyl methacrylate and alkyl (meth)acrylate such as lauryl (meth)acrylate or octadecyl (meth)acrylate (paragraphs 3, 8, 37-46, 48, 50-51, and 63). Further, it is noted that paragraph 150 of Qian et al. discloses that the fine particles possesses average particle size of, for instance, 0.456  $\mu\text{m}$ .

There is no disclosure in Qian et al. that the fine particles are obtained by melting and kneading a coloring agent and binder resin to provide a colored mixture and subjecting the colored mixture to wet dispersion as presently claimed. However, “even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself”. See MPEP 2113.

It is noted that “[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process”, *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985) . Further, “although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product” *In re Marosi*, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir.1983).

Therefore, absent evidence of criticality regarding the presently claimed process for forming the fine particles and given that the Qian et al. discloses product as presently claimed, i.e. fine particles wherein the coloring agent is coated with graft polymer as presently claimed, it is clear that Qian et al. meet the requirements of the present claims.

In light of the above, it is clear that Qian et al. anticipate the present claims.

**Claim Rejections - 35 USC § 103**

8. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

9. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al. (U.S. 5,254,425), Kato (U.S. 6,302,537), or Qian et al. (U.S. 2002/0128349) any of which in view of Grobe et al. (U.S. 6,465,567)

The disclosures with respect to Suzuki et al., Kato, or Qian et al. in paragraphs 5-7 above are incorporated here by reference.

The difference between Suzuki et al., Kato, or Qian et al. and the present claimed invention is the requirement in the claim of the viscosity of the ink.

Each of Suzuki et al., Kato, or Qian et al. is silent with respect to viscosity.

Grobe et al., which is drawn to ink jet inks, disclose adjusting the surface tension for inks used in conventional ink jet printers to 0.5-10 mPas (col.13, lines 21-22).

In light of the above, it therefore would have been obvious to one of ordinary skill in the art to adjust the viscosity of the ink of Suzuki et al., Kato, or Qian et al. to 0.5-10 mPas in order that the ink function effectively in the printer, and thereby arrive at the claimed invention.

**Response to Arguments**

10. Applicants' arguments regarding Oshima et al. (U.S. 2002/0058729) have been fully considered but they are moot in view of the discontinuation of the use of this reference against the present claims.

11. Applicants' arguments filed 1/3/06 have been fully considered but, with the exception of arguments relating to Oshima et al., they are not persuasive.

Specifically, applicants argue that Suzuki et al. is not a relevant reference against the present claims given that there is no disclosure in Suzuki et al. of method of forming an image by ink jet recording system using an oil-based ink comprising discharging the ink from inkjet recording device as presently claimed.

However, it is noted that col.1, line 11 of Suzuki et al. disclose that the colorant, i.e. resin and pigment or dye, is suitable for use in ink jet system while col.1, lines 24-26 discloses a printed product obtained from the ink. Thus, although there is no explicit disclosure of method of forming an image by an ink jet recording system comprising discharging the ink from the ink jet recording device, it is clear given that Suzuki et al. disclose method that includes ink jet system used to form image that such method would inherently and necessarily comprise discharging ink from ink jet printer as presently claimed.

Applicants argue that neither Kato et al. or Qian et al. are relevant references against the present claims given that there is no disclosure in either reference that the fine particles are

obtained by melting and kneading coloring agent and binder to provide colored mixture and subjecting the colored mixture to wet dispersion as presently claimed.

However, it is noted that “[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process”, *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). Further, “although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product” *In re Marosi*, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983).

Therefore, absent evidence of criticality regarding the presently claimed process for forming the fine particles and given that Kato and Qian et al. each disclose fine particles as presently claimed, it is clear that Kato and Qian et al. each meet the requirements of the present claims.

Applicants also argue that the fine particles of Kato and Qian et al. are distinct from those presently claimed.

However, applicants have offered no evidence to support this position. Further, it is noted that “the arguments of counsel cannot take the place of evidence in the record”, *In re Schulze*, 346 F.2d 600, 602, 145 USPQ 716, 718 (CCPA 1965).

Applicants also argue that the fine particles of Kato are produced by polymerization granulation and not melting and kneading followed by wet dispersion as presently claimed.

However, while the graft copolymer itself is produced by polymerization granulation in Kato, this is different from the process used to form the fine particles, i.e. comprising raft polymer and colorant. While it is agreed that there is no disclosure in Kato et al. of process for forming fine particles as presently claimed, as stated above, it is noted that “[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. Given that Kato disclose product, i.e. fine particles, as presently claimed, it is clear that Kato meets the requirements of the present claims.

### Conclusion

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Callie E. Shosho whose telephone number is 571-272-1123. The examiner can normally be reached on Monday-Friday (6:30-4:00) Alternate Fridays Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Callie E. Shosho  
Primary Examiner  
Art Unit 1714

CS  
3/17/06